



SEQUENCE LISTING

<110> Verho, Ritva
Richard, Peter
Penttila, Merja

<120> New Enzyme for an in vivo and in vitro Utilisation of
carbohydrates

<130> 2530-102

<140> US 10/720,018

<141> 2003-11-24

<150> US 10/257,821

<151> 2003-03-10

<150> PCT/FI02/00125

<151> 2002-02-15

<150> FI 2003 31307

<151> 2003-09-12

<150> FI 2001 10308

<151> 2001-02-16

<160> 6

<170> PatentIn version 3.2

<210> 1

<211> 816

<212> DNA

<213> Ambrosiozyma monospora

<400> 1

atgactgact acattccaac ttttagattc gatggccact taaccattgt cacaggtgcc	60
tgtggtggtt tagctgaagc tttaatcaag ggtttgttgg cctacggttc tgacattgct	120
ttgcttgata tcgaccaaga aaagactgct gccaaacaag ccgaatacca caaatacgct	180
actgaagaat tgaagttgaa agaagttcca aagatggggt catatgcctg tgatatttct	240
gattctgata ccgttcacaa ggtgtttgct caagttgcta aggattttgg taagttgcc	300
ttgcacttgg ttaacacagc tggttactgt gaaaacttcc catgtgaaga ttaccagcc	360
aagaacgctg agaagatggt gaaggtaaac ttgttgggtt ctttgtatgt ttctcaagcc	420
tttgctaagc cattgatcaa agaaggtatc aagggtgctt ctgttgtttt gattggttct	480

atgtctggtg ccattgtcaa cgatcctcaa aaccaagttg tctacaacat gtccaaggct 540
 ggtgttatcc atttggctaa gactttggct tgtgaatggg ctaagtacaa catcagagtt 600
 aattcttttaa acccaggtta catctacggt cctttgacca agaatgttat caatggtaac 660
 gaagaattgt acaacagatg gatctctggt atcccacaac aaagaatgtc cgaaccaaag 720
 gaatacattg gtgctgtttt gtacttgctt tctgaatctg ctgcttcata cactactggt 780
 gccagcttac tggttgatgg tggtttcaact tcttgg 816

<210> 2
 <211> 272
 <212> PRT
 <213> Ambrosiozyma monospora
 <400> 2

Met Thr Asp Tyr Ile Pro Thr Phe Arg Phe Asp Gly His Leu Thr Ile
 1 5 10 15

Val Thr Gly Ala Cys Gly Gly Leu Ala Glu Ala Leu Ile Lys Gly Leu
 20 25 30

Leu Ala Tyr Gly Ser Asp Ile Ala Leu Leu Asp Ile Asp Gln Glu Lys
 35 40 45

Thr Ala Ala Lys Gln Ala Glu Tyr His Lys Tyr Ala Thr Glu Glu Leu
 50 55 60

Lys Leu Lys Glu Val Pro Lys Met Gly Ser Tyr Ala Cys Asp Ile Ser
 65 70 75 80

Asp Ser Asp Thr Val His Lys Val Phe Ala Gln Val Ala Lys Asp Phe
 85 90 95

Gly Lys Leu Pro Leu His Leu Val Asn Thr Ala Gly Tyr Cys Glu Asn
 100 105 110

Phe Pro Cys Glu Asp Tyr Pro Ala Lys Asn Ala Glu Lys Met Val Lys
 115 120 125

Val Asn Leu Leu Gly Ser Leu Tyr Val Ser Gln Ala Phe Ala Lys Pro
 130 135 140

Leu Ile Lys Glu Gly Ile Lys Gly Ala Ser Val Val Leu Ile Gly Ser

145 150 155 160

Met Ser Gly Ala Ile Val Asn Asp Pro Gln Asn Gln Val Val Tyr Asn
165 170 175

Met Ser Lys Ala Gly Val Ile His Leu Ala Lys Thr Leu Ala Cys Glu
180 185 190

Trp Ala Lys Tyr Asn Ile Arg Val Asn Ser Leu Asn Pro Gly Tyr Ile
195 200 205

Tyr Gly Pro Leu Thr Lys Asn Val Ile Asn Gly Asn Glu Glu Leu Tyr
210 215 220

Asn Arg Trp Ile Ser Gly Ile Pro Gln Gln Arg Met Ser Glu Pro Lys
225 230 235 240

Glu Tyr Ile Gly Ala Val Leu Tyr Leu Leu Ser Glu Ser Ala Ala Ser
245 250 255

Tyr Thr Thr Gly Ala Ser Leu Leu Val Asp Gly Gly Phe Thr Ser Trp
260 265 270

<210> 3
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 3
tataacgcgt ttggaatcac t 21

<210> 4
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 4
taaatttctg gcaaggtaga c 21

<210> 5
<211> 54

<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 5
gactggatcc atcatgcatc atcatcatca tcatatgact gactacattc caac 54

<210> 6
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 6
atgcggatcc ctatatatac cggaaaatcg ac 32